

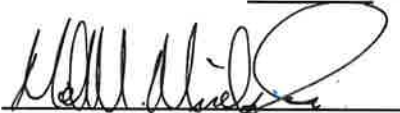


Directional Survey Certification

2948 I-70 Business Loop
Grand Junction, CO 81504
(970)-245-9447 Fax (970)-245-9454

Operator	<u>WPX Energy Rocky Mountain, LLC.</u>
Well Name & No.	<u>PA 441-27</u>
County & State	<u>Garfield County, CO</u>
SDI Job No.	<u>421214DEFK236281</u>
Rig	<u>Nabors 576</u>

I, Mel Mireles Jr., having personal knowledge of all the facts, hereby certify that the attached directional survey run from a measured depth of 0 feet to a measured depth of 9,011 feet is true and correct as determined from all available records.


Signature

29-Dec-14
Date

Mel Mireles Jr.
Grand Junction Assistant Well Planner
Scientific Drilling - Colorado District

Company:	WPX Energy Rocky Mountain, LLC	Local Co-ordinate Reference:	Well PA 441-27 - Slot A01
Project:	Garfield County, CO NAD83	TVD Reference:	KELLY BUSHING @ 5882.01ft (Nabors 576 (26' RKB) mab)
Site:	DOE 2-W-27 Pad	MD Reference:	KELLY BUSHING @ 5882.01ft (Nabors 576 (26' RKB) mab)
Well:	PA 441-27	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Grand Junction District

Project	Garfield County, CO NAD83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site	DOE 2-W-27 Pad				
Site Position:		Northing:	1,615,065.30 usft	Latitude:	39° 29' 45.439 N
From:	Map	Easting:	2,300,864.40 usft	Longitude:	107° 58' 39.895 W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.56 °

Well	PA 441-27 - Slot A01					
Well Position	+N/-S	0.00 ft	Northing:	1,615,110.30 usft	Latitude:	39° 29' 45.884 N
	+E/-W	0.00 ft	Easting:	2,300,866.50 usft	Longitude:	107° 58' 39.884 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,856.01 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/31/2014	9.89	65.65	51,896

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	3.22	

Survey Program	Date	12/29/2014			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
85.00	540.00	Survey #1 - Gyro Survey (Wellbore #1)	SDI Gyro MWD 104	SDI Gyro MWD Error Model Ver 1.0.4	
611.00	2,938.00	Survey #2 - Surface MWD (Wellbore #1)	MWD SDI	MWD - Standard ver 1.0.1	
3,066.00	9,011.00	Survey #3 - Production MWD (Wellbore #1)	MWD SDI	MWD - Standard ver 1.0.1	

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
85.00	0.70	34.45	85.00	0.43	0.29	0.44	0.82	0.82	0.00	
First SDI Gyro MWD Survey										
174.00	2.20	10.37	173.97	2.56	0.91	2.60	1.78	1.69	-27.06	
267.00	4.84	0.26	266.78	8.24	1.25	8.29	2.91	2.84	-10.87	
358.00	8.45	5.63	357.16	18.73	1.92	18.81	4.02	3.97	5.90	
449.00	11.96	4.31	446.71	34.79	3.29	34.92	3.87	3.86	-1.45	

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Well:	PA 441-27	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Grand Junction District

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
540.00	15.04	3.43	535.18	55.99	4.70	56.16	3.39	3.38	-0.97
Last SDI Gyro MWD Survey									
611.00	17.23	4.44	603.38	75.67	6.07	75.89	3.11	3.08	1.42
First SDI Surface MWD Survey									
702.00	19.53	4.73	689.73	104.27	8.37	104.57	2.53	2.53	0.32
794.00	20.31	3.30	776.23	135.54	10.55	135.91	1.00	0.85	-1.55
886.00	21.28	2.42	862.23	168.16	12.18	168.57	1.11	1.05	-0.96
977.00	21.99	0.87	946.82	201.69	13.13	202.11	1.00	0.78	-1.70
1,068.00	21.98	5.23	1,031.21	235.69	14.94	236.15	1.79	-0.01	4.79
1,163.00	22.98	5.78	1,118.99	271.84	18.43	272.45	1.08	1.05	0.58
1,258.00	21.98	3.21	1,206.77	308.05	21.30	308.76	1.48	-1.05	-2.71
1,353.00	22.69	1.56	1,294.65	344.11	22.79	344.85	1.00	0.75	-1.74
1,448.00	21.27	2.00	1,382.74	379.65	23.89	380.39	1.50	-1.49	0.46
1,544.00	21.48	1.41	1,472.14	414.62	24.93	415.37	0.31	0.22	-0.61
1,639.00	22.77	0.19	1,560.14	450.40	25.42	451.12	1.44	1.36	-1.28
1,735.00	21.33	2.46	1,649.12	486.42	26.23	487.13	1.74	-1.50	2.36
1,829.00	21.71	2.34	1,736.56	520.87	27.67	521.61	0.41	0.40	-0.13
1,924.00	22.81	2.34	1,824.48	556.83	29.14	557.59	1.16	1.16	0.00
2,020.00	20.84	4.35	1,913.60	592.45	31.20	593.27	2.19	-2.05	2.09
2,114.00	20.14	5.48	2,001.65	625.24	34.01	626.16	0.86	-0.74	1.20
2,209.00	20.63	4.68	2,090.70	658.20	36.94	659.23	0.59	0.52	-0.84
2,304.00	21.81	4.14	2,179.26	692.48	39.58	693.61	1.26	1.24	-0.57
2,399.00	22.46	3.63	2,267.26	728.19	42.00	729.40	0.71	0.68	-0.54
2,494.00	22.92	4.41	2,354.90	764.75	44.57	766.04	0.58	0.48	0.82
2,589.00	24.18	4.70	2,441.99	802.58	47.59	803.99	1.33	1.33	0.31
2,684.00	23.66	3.11	2,528.83	841.01	50.22	842.50	0.87	-0.55	-1.67
2,779.00	21.74	2.30	2,616.47	877.63	51.96	879.16	2.05	-2.02	-0.85
2,875.00	21.05	1.78	2,705.85	912.62	53.21	914.17	0.75	-0.72	-0.54
2,938.00	21.02	0.93	2,764.65	935.23	53.74	936.77	0.49	-0.05	-1.35
Last SDI Surface MWD Survey									
3,066.00	21.39	0.45	2,883.99	981.52	54.30	983.02	0.32	0.29	-0.38
First SDI Production MWD Survey									
3,161.00	21.02	0.18	2,972.56	1,015.88	54.49	1,017.34	0.40	-0.39	-0.28
3,256.00	21.86	359.99	3,060.98	1,050.61	54.54	1,052.01	0.89	0.88	-0.20
3,352.00	22.31	359.06	3,149.94	1,086.70	54.24	1,088.03	0.59	0.47	-0.97
3,447.00	21.93	358.46	3,237.95	1,122.46	53.46	1,123.69	0.47	-0.40	-0.63
3,543.00	22.09	0.49	3,326.95	1,158.44	53.14	1,159.59	0.81	0.17	2.11
3,638.00	22.67	2.27	3,414.79	1,194.59	54.01	1,195.74	0.94	0.61	1.87
3,733.00	22.95	5.06	3,502.37	1,231.34	56.37	1,232.56	1.18	0.29	2.94
3,828.00	22.39	4.62	3,590.03	1,267.82	59.46	1,269.16	0.62	-0.59	-0.46
3,924.00	21.78	4.32	3,678.98	1,303.80	62.28	1,305.24	0.65	-0.64	-0.31
4,019.00	23.34	3.26	3,766.71	1,340.17	64.68	1,341.69	1.70	1.64	-1.12
4,115.00	22.66	2.86	3,855.08	1,377.63	66.68	1,379.19	0.73	-0.71	-0.42

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Site:	DOE 2-W-27 Pad	MD Reference:	KELLY BUSHING @ 5882.01ft (Nabors 576 (26' RKB) mab)
Well:	PA 441-27	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Grand Junction District

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,210.00	22.48	1.83	3,942.80	1,414.06	68.17	1,415.65	0.46	-0.19	-1.08
4,305.00	23.10	4.87	4,030.39	1,450.78	70.34	1,452.44	1.40	0.65	3.20
4,400.00	23.03	4.54	4,117.80	1,487.87	73.39	1,489.64	0.15	-0.07	-0.35
4,495.00	22.68	4.16	4,205.34	1,524.66	76.19	1,526.53	0.40	-0.37	-0.40
4,590.00	22.45	2.99	4,293.07	1,561.04	78.46	1,562.99	0.53	-0.24	-1.23
4,685.00	22.15	3.78	4,380.96	1,597.03	80.59	1,599.03	0.45	-0.32	0.83
4,781.00	21.77	3.67	4,469.99	1,632.85	82.92	1,634.93	0.40	-0.40	-0.11
4,876.00	22.39	3.56	4,558.03	1,668.49	85.17	1,670.64	0.65	0.65	-0.12
4,971.00	21.61	3.64	4,646.11	1,704.01	87.41	1,706.23	0.82	-0.82	0.08
5,066.00	21.18	2.99	4,734.56	1,738.61	89.41	1,740.88	0.52	-0.45	-0.68
5,162.00	21.76	5.91	4,823.90	1,773.63	92.15	1,776.00	1.27	0.60	3.04
5,256.00	20.85	6.50	4,911.48	1,807.58	95.84	1,810.11	0.99	-0.97	0.63
5,352.00	20.38	6.34	5,001.33	1,841.17	99.62	1,843.86	0.49	-0.49	-0.17
5,447.00	19.61	6.55	5,090.60	1,873.45	103.26	1,876.29	0.81	-0.81	0.22
5,542.00	17.51	4.92	5,180.66	1,903.53	106.31	1,906.49	2.28	-2.21	-1.72
5,637.00	15.72	6.95	5,271.69	1,930.54	109.09	1,933.62	1.98	-1.88	2.14
5,732.00	14.32	8.89	5,363.44	1,954.93	112.46	1,958.16	1.57	-1.47	2.04
5,828.00	12.67	8.47	5,456.79	1,977.07	115.85	1,980.46	1.72	-1.72	-0.44
5,923.00	12.67	2.82	5,549.48	1,997.78	117.90	2,001.25	1.30	0.00	-5.95
6,018.00	10.95	2.76	5,642.46	2,017.20	118.84	2,020.69	1.81	-1.81	-0.06
6,114.00	10.96	2.10	5,736.71	2,035.43	119.62	2,038.93	0.13	0.01	-0.69
6,209.00	10.17	2.29	5,830.10	2,052.83	120.28	2,056.35	0.83	-0.83	0.20
6,305.00	8.84	0.43	5,924.78	2,068.68	120.68	2,072.19	1.42	-1.39	-1.94
6,399.00	7.60	3.57	6,017.82	2,082.11	121.12	2,085.62	1.40	-1.32	3.34
6,495.00	5.65	7.43	6,113.17	2,093.13	122.13	2,096.69	2.08	-2.03	4.02
6,591.00	5.10	4.60	6,208.75	2,102.07	123.08	2,105.66	0.64	-0.57	-2.95
6,686.00	4.54	1.98	6,303.41	2,110.04	123.55	2,113.64	0.63	-0.59	-2.76
6,781.00	4.30	3.12	6,398.13	2,117.35	123.87	2,120.97	0.27	-0.25	1.20
6,876.00	3.78	358.04	6,492.89	2,124.04	123.96	2,127.65	0.66	-0.55	-5.35
6,971.00	2.98	21.66	6,587.73	2,129.46	124.76	2,133.11	1.67	-0.84	24.86
7,066.00	2.47	24.96	6,682.62	2,133.61	126.54	2,137.35	0.56	-0.54	3.47
7,161.00	1.42	67.43	6,777.57	2,135.92	128.49	2,139.77	1.81	-1.11	44.71
7,256.00	1.82	72.39	6,872.53	2,136.83	131.01	2,140.81	0.45	0.42	5.22
7,351.00	0.90	133.48	6,967.51	2,136.77	132.99	2,140.87	1.68	-0.97	64.31
7,447.00	1.30	151.07	7,063.49	2,135.30	134.07	2,139.46	0.54	0.42	18.32
7,542.00	1.34	162.99	7,158.47	2,133.29	134.91	2,137.50	0.29	0.04	12.55
7,638.00	1.42	172.15	7,254.44	2,131.04	135.40	2,135.28	0.24	0.08	9.54
7,733.00	2.00	166.73	7,349.40	2,128.26	135.95	2,132.54	0.63	0.61	-5.71
7,829.00	2.19	175.99	7,445.33	2,124.80	136.46	2,129.11	0.40	0.20	9.65
7,924.00	2.28	173.54	7,540.26	2,121.11	136.80	2,125.45	0.14	0.09	-2.58
8,019.00	2.58	183.45	7,635.18	2,117.10	136.88	2,121.45	0.54	0.32	10.43
8,114.00	2.92	189.73	7,730.07	2,112.58	136.34	2,116.91	0.48	0.36	6.61

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Well:	PA 441-27	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Grand Junction District

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
8,209.00	3.29	214.31	7,824.93	2,107.95	134.40	2,112.17	1.44	0.39	25.87	
8,304.00	3.06	202.24	7,919.79	2,103.35	131.90	2,107.44	0.74	-0.24	-12.71	
8,400.00	2.73	202.02	8,015.66	2,098.86	130.08	2,102.85	0.34	-0.34	-0.23	
8,495.00	2.85	193.50	8,110.55	2,094.46	128.68	2,098.38	0.45	0.13	-8.97	
8,590.00	3.11	197.90	8,205.42	2,089.71	127.33	2,093.57	0.36	0.27	4.63	
8,685.00	2.63	203.08	8,300.30	2,085.26	125.69	2,089.02	0.57	-0.51	5.45	
8,781.00	2.84	210.11	8,396.20	2,081.17	123.63	2,084.83	0.41	0.22	7.32	
8,876.00	3.40	210.61	8,491.05	2,076.71	121.01	2,080.23	0.59	0.59	0.53	
8,953.00	3.48	213.50	8,567.92	2,072.80	118.56	2,076.18	0.25	0.10	3.75	
Last SDI Production MWD Survey										
9,011.00	3.48	213.50	8,625.81	2,069.86	116.62	2,073.14	0.00	0.00	0.00	
Projection to TD										

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
85.00	85.00	0.43	0.29	First SDI Gyro MWD Survey	
540.00	535.18	55.99	4.70	Last SDI Gyro MWD Survey	
611.00	603.38	75.67	6.07	First SDI Surface MWD Survey	
2,938.00	2,764.65	935.23	53.74	Last SDI Surface MWD Survey	
3,066.00	2,883.99	981.52	54.30	First SDI Production MWD Survey	
8,953.00	8,567.92	2,072.80	118.56	Last SDI Production MWD Survey	
9,011.00	8,625.81	2,069.86	116.62	Projection to TD	

Checked By: _____	Approved By: _____	Date: _____
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